EDUCATION FOR BUSINESS

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A sufficiently large body of business men and of educators is in such substantial agreement upon the question of the desirability of institutions of commercial education in the United States, that the fundamental question of desirability may be considered settled, and problems which were formerly subsidiary may be brought to the front. Present discussion should be directed towards an analysis of business and of various schemes of instruction, for the purpose of determining what business may properly claim the service of commercial education, and what particular scheme of instruction may be best adapted to the needs of a particular business. It is the purpose of this article to present an analysis, general rather than close, of the educational needs of business, and to suggest certain principles that should be observed in the adaptation to it of courses in commercial education.

Leaving out of consideration the moral qualities — qualities that are essential to ultimate efficiency in every walk of life — the two fundamental qualities demanded by a business concern of its employees, are technical skill and ability to manage. The term employee is here used in its broadest sense, as embracing ordinary skilled labor on the one hand and the salaried manager of a corporation on the other; it is evident, therefore, that a business concern may demand in its employees all sorts and conditions of technical skill and of ability to manage, and that industry as a whole demands sorts and degrees of skill impossible of enumeration. This condition being one of the first that commercial education should recognize, one of the first inquiries it should make of itself is, how it can develop in young men, to the advantage of business, various degrees of these two fundamental characteristics.

With regard to managerial ability, the writer has elsewhere ex-

pressed the opinion that it would be presumptuous for commercial education to pretend to develop it by any direct means. Managerial ability is made up of three main elements. The first is a temperamental element. The successful manager must be of the motor type of individuals, one who impresses himself upon others, one who possesses initiative. This temperamental characteristic cannot be acquired; it is born in the individual. Education can do no more than direct it. The second element is adaptability, adjustability to persons and circumstances. This element is socially developed and may be a product of education. It is, in fact, the product of a young man's whole environment — home, play-ground, school, base ball and social gatherings. The important point for the present discussion is that for its development a commercial course is less efficient than the ordinary high school or college course. The third element of managerial ability is technical knowledge, a knowledge of the field of management. A good manager is one who unites the three elements — a motor temperament, the ability to adjust himself to circumstances, and this knowledge of the field of management. It is by providing the third element that commercial education can aid in developing managerial ability. It must leave the first element to birth, it should leave the second element to social life as expressed in the home and the public school system, but the development of the third element it may claim as its own especial function.

If the accuracy of this analysis of the elements of managerial ability be admitted, the logical conclusion is, that of the two qualities demanded in its employees by a firm — technical skill and skill in management, industrial education should aim to develop only technical skill. Industrial education should leave culture courses and the general training of the young man to the high school and the college, and should devote all its energy to giving him knowledge of the facts and principles of business in general and of his future business in particular. It should not attempt to perform the function of the public school system. It should leave to that system the general training of the mind and the general training of the man; then, at the end of his grammar school, high school or college course (according to the grade of training it aspires to give), the commercial school should take the young man and by practical, technical instruction develop the business side. The school and the college should take the crude ore and produce from it the pure metal,

capable of being fashioned to a variety of uses; the commercial school should take the pure metal and fashion it for a particular use. The economies of business organization should be secured in the organization of the educational system; the greater efficiency of division of processes should be recognized.

If industrial education can render the greatest service to business by attending directly to instruction in business facts and principles and by leaving to the general educational system the training of the man, at what time should it receive the student from the general educational system, and after it has received him, should it aim to train merely in the general principles of business, or for specific businesses as well? The two parts of this question should be considered in turn.

The fact, to which attention has already been called, that business requires all sorts and degrees of skill, suggests at once that industrial schools should be so graded as to receive the products of the general school system at various ages, after mental training of varying degrees of thoroughness, and for the purpose of training for various grades of service. A rough classification of grades of skilled service will make clear the reasonableness of this suggestion.

The first grade of service is that represented by ordinary skilled labor. This skilled labor is of two classes; that of the hand or machine worker and that of the clerk in the office. The skilled worker of the first class should be trained by the trade school and may be taken at an early age with a minimum of public school training. The office clerk is trained at an early age by the business college. Inasmuch as office work serves as an avenue for further advancement, (to capable men,) it is not unlikely that this service will be performed by an increasing number of young men trained for higher positions.

The second grade of service is that performed by the scientific worker, represented by the chemist, the accountant, the actuary, the factory statistician, and the foreign exchange clerk. These are services requiring the highest degree of scientific knowledge, and it is obvious that no man deficient in training will succeed in performing them satisfactorily. No firm thinks of employing as a chemist a man who has not had a collegiate training, and the other lines represent as high a degree of skill. Here is the place for commercial schools of at least college rank; a thorough knowledge of

foreign exchange, actuarial science, and the higher forms of accounting can be acquired only by a special training equal in rank to that of the college.

A third grade of service is that performed by managers of departments. In addition to initiative, the ability to handle men and the technical knowledge represented by the lesser grades, the requirement for the performance of a service of this grade is that wider technical knowledge which is expressed in an appreciation of the requirements of the department as a part of the business, and in an appreciation of the most advanced methods applied to the operation of similar departments. In the development of these superior abilities is again found the place for institutions of higher commercial education. This development requires a thorough training in the methods of modern business organization and administration, training that can yield its best results only when given to minds already well disciplined.

The fourth grade of service is that represented by the responsible manager, who is concerned with the broader problems of the business, who organizes, finances and determines policies. This grade of service requires ability of the highest order, an ability in which capacity for initiative and for handling men is not less important than a thorough knowledge of the business on its technical side. As has been suggested in the consideration of managerial ability, the quality of initiative must be a natural gift and the capacity for handling men must be the result of a broader training than can be offered by a commercial school; but thorough technical knowledge, without which initiative and the capacity for handling men are ineffective, industrial education can give. Technical knowledge, when used in connection with services of this class, must not be conceived too narrowly. Just as the technical knowledge of the laborer of the second grade of service must be more comprehensive than that of the laborer of the first grade, and as that of the laborer of the third must be more comprehensive than that of the second grade so the technical skill of him in the fourth grade must comprehend all that is implied in the other three and much in addition. The mind of the manager must understand his business in all its relations — political, social, and economic. It must perceive tendencies that are concealed beneath the surface of events, and thus be able to judge of the future. It must be, to use a common expres-

sion, the mind of a "long-headed business man." It is believed by many that such a capacity can be developed only by actual experience in business, and that for its development education is useless. Nothing can be more true than that experience is necessary, but nothing can be less true than that education is useless. Business experience is the observation and the interpretation of business phenomena, and the value of such observation and interpretation depends upon the mental ability and the knowledge of facts and principles that one takes into experience. No service that commercial education can perform is of greater importance than that of providing a man, before he enters upon experience, with a knowledge of the broadest relations of the business, the facts concerning which are to be found in the records of the experience of others. For illustration, what an advantage in the interpretation of experience is possessed by the young man, new in the banking processes, who has, in addition to an acquaintance with the routine operations, that broad technical information imparted by the serious study of such articles as those published in the *Journal of the Institute of Bankers*, and by the intelligent reading of such works as Goschen's *Essays and Addresses!* What an advantage will be possessed by that young man, entering the employment of a railroad, who has, in addition to a knowledge of the systems by which routine is carried on, that broad information represented by the ability to make an intelligent analysis of various companies' policies as to construction, maintenance and operation! In imparting such a knowledge of the facts and principles of a business as is suggested by these illustrations, will commercial education find one of its most precious opportunities; and in determining the degree of previous training that shall be required of a young man before he shall be permitted to receive such information, will it find one of the most important problems. A commercial school should not venture to offer such advanced technical training to minds that have not had the mental discipline of a collegiate course and that have not acquired that grasp of fundamental facts of industrial life and of economic principles which is afforded by a thorough collegiate course in economics.

The general analysis of industrial services makes it apparent that there are many classes, and within each class many degrees of technical skill that commercial education may develop. A comprehensive system of commercial education should present a series of in-

stitutions graded according to the preliminary general training required and the nature of the technical instruction offered. The system of commercial education should be parallel to the general public school and college system. Each system should adhere to the performance of its proper function. The general system should give the mental discipline and aim at the general training of the man; the system of commercial schools should receive the youth or man from the public school or college and concentrate its energy on fitting him to perform skillfully some service or class of services required by the business world. The trade school or the business college may receive the boy from the grammar school and make of him a skilled machinist or a skilled stenographer; a commercial school higher in rank may receive the youth from the high school and fit him to perform business functions of higher rank; while the commercial school at the top of the series may receive the product of collegiate training, and make of him a skilled accountant, or actuary, or foreign exchange clerk, giving him that broad knowledge of business facts and that insight into business principles which will enable him, under the influence of experience, to acquire that comprehensive knowledge of business affairs which is one of the elements of successful management.

It has been implied in the course of this article that the schools of the commercial system should train for specific business positions as well as in the general principles of business. The specialization of industrial functions has made this necessary and possible. The need of the textile manufacturer of New England, because he has been driven into the manufacture of finer yarns and fabrics by the competition of the South, is for skilled operators of textile machinery, skilled dyers and skilled designers. The need of the manufacturer of machinery, in order that he may succeed in competition with manufacturers using the skilled labor of England, is a supply of labor rendered equally skillful by training.[1] The need of the firm trading with South American peoples is for men trained to handle the peculiar conditions of that particular market. The need of the international banker is for men trained in all the intricacies of the buying and selling of foreign exchange (he now sends to European commercial schools for men so trained). The need of the railroad company is for men who are not only able to perform the routine

[1] F. A. Vanderlip, *Scribner's* March, 1905, p. 339.

functions of a clerk, but who have so comprehensive a grasp of the whole complex railroad machine as to be able to take the responsibility of keeping a particular part of the machine nicely adjusted to the whole.[2] The business concern has relied as long as is possible on the general intelligence of the American youth; its need, in the approaching era of closer competition, narrower profits, and more highly organized system, is that same American intelligence specifically trained for the performance of its particular services.

Not every service requires that degree of technical skill, nor does every business present that body of facts and principles, which makes possible a formal course of instruction in preparation for it. The necessity or the practicability of special training for any particular service or business must be determined by a consideration of the conditions that are present. The conditions that make such special training desirable and practicable may be enumerated as follows:

1. If the occupation is one requiring special manual dexterity, or the application of a special ability such as the artistic, and the application of either becomes most efficient when directed by a thorough understanding of the principles underlying it, schools of special training will be of value to the business interested. It is necessary, for illustration, only to call attention to the marked success of European weaving, dyeing and designing schools, and of schools for teaching machine practice. These schools may take the individual at an early age and may be satisfied with a minimum amount of previous training.

2. If the occupation is one requiring the application of a highly developed science, special training is practicable, desirable and possibly essential. Mention has been made of the increasing use of chemistry in industrial processes, such as iron and steel manufacture. The training for such an occupation must be of an advanced order, must be thorough and of long duration, and must be built upon an advanced general training. Such a knowledge of chemistry as would enable a man to apply it to industrial processes can be acquired only by a special training following the general college training in chemistry. Chemistry is here used as an illustration because the facts concerning it are well known. The same may be said, however, of other occupations. How much more efficient will be

[2] See Levy, *Die Stahlindustrie der Vereinigten Staaten*, pp. 309–315.

the work of a clerk in the actuarial department of an insurance company, how much more rapid can be his promotion, if he comes with a knowledge of actuarial mathematics! A satisfactory training in actuarial mathematics can be given only to the student who has carried his collegiate mathematics through calculus. How much more efficient will be the work of a clerk in a foreign exchange department, if he comes with a special training in the operations and principles of foreign exchange, built upon a thorough college course in economics. It could not well be built upon a less substantial foundation.

3. If the occupation is one requiring a knowledge of unusual market conditions, such as the language, customs and other peculiarities of a foreign people, special training will increase the efficiency of the young man entering it. This is especially true of the young man about to begin a career as a salesman in a foreign country. The superiority of German and of certain other European salesmen in South American markets is due to a fine appreciation of the customs of the buyer, which appreciation is due to a special training whose object was its development. What is true of a salesman traveling in the foreign market is not less true of one who sells in the foreign market but who resides in the country of manufacture. He may be in the employ of a trading company or of a manufacturing concern producing goods for export trade. He must know the conditions of his market, its tastes, its currency and banking system, its methods of credit, the conditions that make good or bad times and affect its purchasing power, the conditions of transportation, the methods of quoting goods, and so on. Because of his dependence on the reading of the newspapers of his market, his dependence on a knowledge of the language is as great as that of the traveling salesman. It might reasonably be said to be greater, for he attempts at long range to accomplish as much as the other.

4. If the business is one whose organization is complex,— is, so to speak, a huge machine with intricate, finely adjusted parts, special training will increase the efficiency of the young man occupying a position in it. Such a training will tend to counteract the narrowing influence on the young man of the modern specialization of routine functions. The result of this tendency is to drive the clerk into the rut of dead routine, whence there is no outlook upon the business as a

whole. The harmful results are of two kinds. First, his routine work becomes less efficient because not given life by a comprehension of its place in the system, and second, the growth of the man for more responsible positions is stunted. The latter is a serious matter for the manager, for the more responsible the position the more difficult it is to find an efficient man to fill it. One of the problems of the manager of the operating department of a railroad system would become less serious, were he able to employ for his force men who had been trained in the general principles of railroad operation before entering upon the performance of routine duties,— men who are already acquainted with the actual methods of operation employed by typical systems.

5. If the business is one which has vital, complex relations to other businesses or to general trade conditions,— relations which are as likely to make necessary sudden changes in policy as to involve the carrying out of far-reaching policies, special training can play a large part in the development of the insight necessary for the successful pursuit of such business. Reference may be made to the railroad business as an illustration of that class involving far-reaching policies. A superintendent of traffic may be called upon to report to the president upon the traffic aspects of the investment of millions of dollars in the building of a line into the new territory, an investment the return on which cannot begin for a number of years. The report involves more than intuition or guess work; it involves a study of records for the purpose of determining the relation between traffic and the industrial conditions of a region; it involves a study of the region in question for the purpose of determining, on the basis of soil, climate, industrial characteristics of the people, and other factors, the probable future industrial importance of the region. Railroad history furnishes a body of facts and principles which may be correlated and made the material of instruction in traffic management: the history of the development of the traffic policy of that greatest of operators, James J. Hill, is almost a text-book in itself. With regard to that class of businesses involving sudden changes in policy, or involving the adjustment of the business to varying conditions, as an illustration of a conservative form, textile manufacturing may be cited, as an illustration of an extreme form, dealing on the cotton exchange. In both illustrative businesses contracts are made to a greater or less degree on the basis of estimated future

conditions, the accuracy of the respective estimations depending upon a judgment involving a large number of different factors. The record of the relations of these conditions to the business offers a body of experience and principles which is proper material for instruction. There can be no doubt that, of two groups of young men in whose situations other things are equal, the group which has prefaced its actual experience in business with such instruction as is here suggested, will develop a larger percent of individuals capable of handling the larger problems of the business.

If any one of the five enumerated conditions is presented by a business, a course of specialized training for that business will be of value to the young man about to enter it and to his employer. If more than one of the conditions is presented, so much the more valuable will be the specialized training. And, as a matter of fact, there is scarcely an important business in which, if one of the conditions is found, others will not be found in combination. Even an ordinary retail business, for which training would seem to be least necessary, may present the conditions of complex organization and systematization, and the condition which makes desirable the most scientific accounting and analysis of trading accounts. In those businesses which are of such a nature as to make desirable the corporate form of organization, nearly all of the conditions are found in combination. With respect to the course of training for any particular business, the elements which should enter into that course should be determined by an analysis of the business, the analysis having as its object a determination of what conditions are present. In accordance with this idea, the writer purposes, in conclusion, to suggest what elements may properly enter into special courses of training for a number of typical businesses.

At this point it is necessary to emphasize the opinion which has been advanced in the course of this article, that the specialized higher commercial training should be built upon the training offered by a greater part or the whole of a four years college course. This general training may be looked upon as preparatory to the specialized commercial training, just as it may be looked upon as preparatory to a course in a law or medical school. It is the view of the writer that the young man should have had in this preparatory training, at least work in English composition and rhetoric and the elementary work in one or more modern languages; work in history which has

given him a moderate amount of practice in collecting and judging the value of historical evidence; and work which has involved not only the study of economic history and the elementary principles of economics, but also the application of these principles to live economic problems, such as those of labor or of corporate organization.

1. Elements that are common to all forms of business, and that should be regarded in the organization of every course of training for a particular business. The elements are four in number. (a) Accounting. In training in this element of business, the aim should be not to develop an expert accountant, but to give every student the information necessary to perform routine work in accounting, to analyze intelligently balance sheets and profit and loss statements, and to construct statistical statements of the relations of gross and net profits, fixed and variable expenses, and so on, during a period of years. (b) Modern language. Nearly every business may require the practical use of a modern language, such as Spanish in making quotations to South American buyers; or may be one, the best information concerning which is locked up in a foreign language, as is the case with banking and French. (c) Commercial law. The purpose of instruction in commercial law should be not to make "every man his own lawyer," but to give every business man a knowledge of the proper legal forms of commercial papers, and an appreciation of the rights and responsibilities of individuals, whether personal or corporate, principal or agent. (d) History of the technical development of typical industries. Instruction in this phase of business should give the student an appreciation of the changes that have taken place during recent years in the use of machinery, the methods of buying and selling, the conditions of transportation, the forms of organization, the regard for economies, and the general methods of conducting business. There is hardly a business, a proper performance of which does not require a greater or less familiarity with these four elements.

2. Elements peculiar to accountancy. Four elements should be emphasized in a course of special training for the accounting profession. (a) The technique of bookkeeping, accounting and auditing, including the logic of grouping and combining accounts for the purpose of drawing conclusions concerning the conditions represented by the accounts. (b) Corporation finance, involving an understanding of the theory and methods of financial operations, and

the rationale of various surplus, dividend and similar policies. (c) Business organization and systematization, involving a knowledge of the relations of departments and of process. (d) Corporation law. The certification of an auditor frequently involves a certification of the agreement of methods and policies with statute law or charter requirements.

3. Elements peculiar to a particular manufacturing or mercantile business. No two such businesses will agree in the details of the elements presented by the business, but the differing detailed elements fall into certain well defined groups. (a) The technical aspect of the business, irrespective of the application of a particular science, involving a knowledge of its materials, the markets of their production, the development of technical processes, and the conditions affecting the consumption of the particular finished products. (b) The scientific aspects of the business, where it is one involving the application of a developed science, such as chemistry in aniline dye manufacture, or designing in the manufacture of fabrics, or preserving in the manufacture of food products. (c) Organization and systematization as applied to the particular kind of business. The history of many a business suggests what particular form of legal organization is best adapted to it; the comparison of the many forms of systematization will indicate what element of each is most suitable for the efficient administration of the business; and experience may throw light on the most efficient organization of processes,— may determine whether a firm should undertake all or only a series of processes. (d) The relation of business to general market conditions. The policy of the conduct of a business for a given year may vary with variations in general business conditions, especially if the business has a close relation to a number of other businesses. A flood, a drought, the condition of a crop, the condition of the money market, a plague of speculation, an acute diplomatic situation, and many other conditions may affect the course of a business.

4. Elements peculiar to foreign trade. (a) Modern language, especially Spanish. (b) The commercial geography of the principal countries with which foreign trade is conducted, including racial characteristics, and the banking and other business methods of the peoples. (c) The methods of conducting foreign trade practiced by the leading commercial countries, involving a knowledge of the

legal and customary requirements of the various documents employed. (d) The theory and methods of foreign exchange.

5. Elements peculiar to the banking business. (a) The organization of the bank and the significance of its routine. (b) Special forms of accounting, for example, that of investment accounting. (c) The theory and the methods of foreign exchange, a branch distinct and highly developed. (d) The relation of the bank to the money and stock markets. (e) The relation of the bank to general industrial conditions, as affecting the investment and loan policy. (f) Corporation finance and business management, a thorough understanding of which is essential to the establishment of a safe loan and investment policy. (g) Banking law, involving a knowledge of the legal rights and responsibilities of bank officials, the handling of trust funds, and an observation of the exacting requirements of laws governing bank organization and practice.

6. Elements peculiar to the transportation business. (a) The application of accounting to the peculiar requirements of transportation. (b) The application of statistics as a logical method of deriving principles from the multiplicity of data collected in the conduct of the business. (c) The organization of the system and the organization and functions of the departments of the system. (d) Theories of administration,— construction, maintenance, operation, rate making and finance. (e) The relations of the business to the general industrial conditions and to the particular conditions of its territory. (f) Railroad law,— the rights and responsibilities of a railroad as a common carrier and as a quasi-public corporation.

7. Elements peculiar to the insurance business. (a) The economic function of insurance. (b) Actuarial mathematics. (c) The investment of trust funds. (d) The special form of accounting applicable to an insurance office and its branches. (e) The organization of an insurance company, and the functions of departments. (f) Insurance law,— the legal rights and responsibilities of a fiduciary corporation and of its officers.

This analysis of the elements of a variety of businesses does not pretend to be exhaustive; its purpose is to emphasize the opinion that there is a large number of businesses which have accumulated such a body of facts and principles, and whose various functions and relations have become so well defined, as to present subjects for instruction in special courses of training for young men about to en-

ter them,— courses of training that may be made thoroughly *practical* without being *practice* courses; that may be presented according to scientific methods of instruction, and that may be profitably given to minds which have been well disciplined by the general training of the college. It emphasizes also the fact that higher education for business is not a new name for the education offered by the business college, and is not a substitute for experience, but that it is a legitimate phase of education which invites the co-operation of business men and of educators for the purpose of its development.